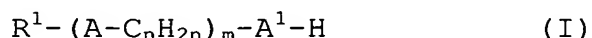


Claims

1. Hydrophilic siloxane copolymers preparable by
a first step of reacting
organopolysiloxanes (1) which have at least one
silicon-bonded hydrogen atom per molecule with
substantially linear oligomeric or polymeric
compounds (2) of the general formula



where R^1 is a monovalent optionally substituted
hydrocarbyl radical capable of adding Si-H groups
in a hydrosilylation reaction,

A is a bivalent polar organic radical selected
from the group consisting of -O-, -C(O)-O-, -O-
C(O)-, -O-C(O)-O-, -C(O)-NH-, -NH-C(O)-, urethane
radical and urea radical,

A^1 is a bivalent polar organic radical selected
from the group consisting of -O-, -NH- and -NR'-
(where R' is a monovalent hydrocarbyl radical of 1
to 18 carbon atoms),

n is an integer from 1 to 20, and

m is a positive integer,

and a second step of reacting

the resulting H- A^1 -containing intermediates (4)
with organic compounds (5), which have two or more
isocyanate groups per molecule,

with the proviso that the water content of the
compounds (1) and (2), which are used for
preparing the hydrophilic siloxane copolymers, is
lower than 2000 weight ppm, in each case based on
the total weight of compounds (1) and (2).

2. The hydrophilic siloxane copolymers according to
claim 1 characterized in that the organic
compounds (5), which have two or more isocyanate
groups per molecule, are used in amounts of 0.5 to

1.0 mol of isocyanate group per mole of H-A¹ group in the intermediate (4).

3. The hydrophilic siloxane copolymers according to claim 1 or 2 characterized in that said organopolysiloxanes (1) have the general formula

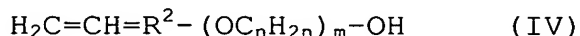


where R in each occurrence may be the same or different and is a monovalent optionally substituted hydrocarbyl radical having 1 to 18 carbon atoms per radical,
g is 0, 1 or 2,
o is 0 or an integer from 1 to 1500, and
p is 0 or an integer from 1 to 200,
with the proviso that there is at least one silicon-bonded hydrogen atom per molecule.

4. The hydrophilic siloxane copolymers according to claim 3 characterized in that said organopolysiloxanes (1) are α,ω -dihydrodiorganopolysiloxanes.

5. The hydrophilic siloxane copolymers according to any one of claims 1 to 4 characterized in that A and A¹ in the formula (I) are an oxygen atom -O-.

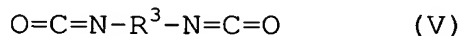
6. The hydrophilic siloxane copolymers according to any one of claims 1 to 5 characterized in that the compound (2) is a polyether of the general formula



where R² is a bivalent hydrocarbyl radical of 1 to 10 carbon atoms and
n and m are each as defined in claim 1.

7. The hydrophilic siloxane copolymers according to any one of claims 1 to 6 characterized in that the compound (5) is a diisocyanate of the general formula

5

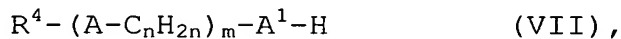


where R^3 is a bivalent hydrocarbyl radical having 4 to 40 carbon atoms per radical.

10

8. The hydrophilic siloxane copolymers according to any one of claims 1 to 7 characterized in that the second step utilizes further compounds (7) selected from the group of the formulae

15



20



25



30

where R^4 is a hydrogen atom or an R radical which may optionally contain a nitrogen atom,

R^5 is a bivalent hydrocarbyl radical of 1 to 10 carbon atoms per radical,

35

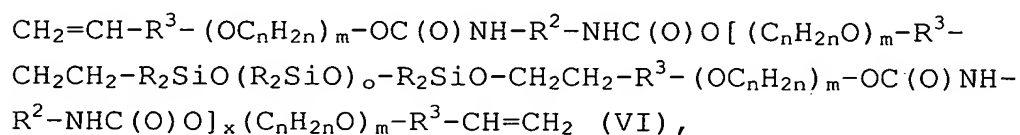
R^6 is a trivalent organic radical having 1 to 100 carbon atoms per radical, preferably a trivalent hydrocarbyl radical having 1 to 100 carbon atoms, which contains one or more oxygen atoms,

R⁷ is a tetravalent organic radical having 1 to 100 carbon atoms per radical, preferably a tetravalent hydrocarbyl radical having 1 to 100 carbon atoms which contains one or more oxygen atoms, and

5 A¹, n and m are as defined in claim 1.

9. The hydrophilic siloxane copolymers according to any one of claims 1 to 8, characterized in that they are of the general formula

10



15

where R in each occurrence may be the same or different and is a monovalent optionally substituted hydrocarbyl radical having 1 to 18 carbon atoms per radical,

20

R² is a bivalent hydrocarbyl radical having 1 to 10 carbon atoms,

R³ is a bivalent hydrocarbyl radical having 4 to 40 carbon atoms per radical,

n is an integer from 1 to 20,

m is a positive integer,

25

o is 0 or an integer from 1 to 1500, and

x is 0 or an integer from 1 to 20.

10. A process for preparing the hydrophilic siloxane copolymers according to any one of claims 1 to 9, characterized in that it comprises

30

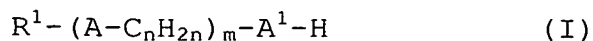
a first step of reacting

organopolysiloxanes (1) which have at least one silicon-bonded hydrogen atom per molecule with

substantially linear oligomeric or polymeric

35

compounds (2) of the general formula



where R^1 is a monovalent optionally substituted hydrocarbyl radical capable of adding Si-H groups in a hydrosilylation reaction,

5 A is a bivalent polar organic radical selected from the group consisting of -O-, -C(O)-O-,
-O-C(O)-, -O-C(O)-O-, -C(O)-NH-, -NH-C(O)-, urethane radical and urea radical,

A^1 is a bivalent polar organic radical selected from the group consisting of -O-, -NH- and -NR'-
10 (where R' is a monovalent hydrocarbyl radical of 1 to 18 carbon atoms),

n is an integer from 1 to 20, and

m is a positive integer,

and a second step of reacting

15 the resulting H- A^1 -containing intermediates (4) with organic compounds (5), which have two or more isocyanate groups per molecule,

with the proviso that the water content of the compounds (1) and (2), which are used for
20 preparing the hydrophilic siloxane copolymers, is lower than 2000 weight ppm, in each case based on the total weight of compounds (1) and (2).

11. The process according to claim 10 characterized in
25 that the organic compounds (5), which have two or more isocyanate groups per molecule, are used in amounts of 0.5 to 1.0 mol of isocyanate group per mole of H- A^1 group in the intermediate (4).

30 12. Emulsions comprising
(A) hydrophilic siloxane copolymers according to any one of claims 1 to 9, and
(B) water.

35 13. The process for producing the emulsions according to claim 10 by mixing of
(A) hydrophilic siloxane copolymers according to any one of claims 1 to 9, with
(B) water.